UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BUCKLEY, MASCHOFF & TALWALKAR LLC
50 LOCUST AVENUE
NEW CANAAN, CT 06840

EXAMINER
ABELSON, RONALD B

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/736,302	KUMAR ET AL.
	Examiner	Art Unit	
	Ronald Abelson	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>24 August 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-5 and 7-27</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-5 and 7-27</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>12/15/03</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which

forms the basis for all obviousness rejections set forth in this

Office action:

> (a) A patent may not be obtained though the invention is not identically
> disclosed or described as set forth in section 102 of this title, if the
> differences between the subject matter sought to be patented and the prior
> art are such that the subject matter as a whole would have been obvious at
> the time the invention was made to a person having ordinary skill in the
> art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

2.   Claims 1-3, 7, and 10-15 are rejected under 35

U.S.C. 103(a) as being unpatentable over Li (US 6,529,508) in

view of Rovner (US 7,142,509).

Regarding claims 1,13, Li teaches identifying a first

portion of an IP address and a second portion of the IP address

(col. 16 lines 3-4), the IP address contained in a packet header

for an information packet (col. 5 lines 43-47).

Li teaches checking if the first portion has a first pre-

determined relationship to a plurality of stored patterns

associated with the first header-portion (col. 16 lines 26-34).

Li teaches checking if the second portion has a second pre-determined relationship to a second stored pattern associated with the second portion (col. 16 lines 35-50).

Li teaches generating an indication that the information packet has an invalid IP Address if either the first portion check or the second portion check fails (default class, col. 16 lines 26-50, none of the rules can be satisfied, default class, null, col. 19 lines 50-55).

Although Li teaches the first and second portions of the address are compared to a set of tables (col. 16 lines 20-50), the reference does not explicitly state the first and second portions are stored.

Rovner teaches storing the first and second portion of a header (source and destination address extracted and stored in a data structure, col. 7 lines 39-46).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Li by storing the first and second portions of the header in a memory, as suggested by Rovner. This modification would benefit the system by providing a method for extracting the first and second

portions of the header in order to compare with the address
tree.

Regarding claims 2, 11, 14, a plurality of pre-determined
relationships and stored patterns are associated with the first
portion (no IP address which begins with "b1.b2" can match any
rules, there is an answer set corresponding to "b1.b2", "b1.b2"
is part of a longer IP address, col. 16 lines 26-34).

Regarding claims 3, 15, the pre-determined relationships
associated with the first portion indicates that the first
portion should not equal any of the stored patterns associated
with the first portion (default class, col. 16 lines 26-34).

Regarding claim 7, the IP address is associated with at
least one of: an asynchronous transfer mode network, or a frame
relay network (ATM, col. 5 lines 13 - 23).

Regarding claim 10, a memory unit stores an indication of
the first pre-determined relationship along with the first

stored pattern for the first portion (entry indicates one of

three possibilities, col. 16 lines 26-34).

    Regarding claim 12, the memory unit further stores an

indication of the number of pre-determined relationships and

stored patterns that are associated with the first portion

(entry indicates one of three possibilities, col. 16 lines 26-

34).

3.   Claims 4, 5, 16, and 17 are rejected under 35 U.S.C. 103(a)

as being unpatentable over the combination Li and Rovner as

applied to claims 3 and 15 above, and further in view of Pandya

(US 6,792,502).

    Regarding claim 4 and 16, the combination is silent on the

stored patterns associated with the first header portion are

stored in a content addressable memory unit 'CAM'.

    Pandya teaches storage using a CAM (fig. 1, col. 4 lines

30-34).

    Therefore it would have been obvious to one of ordinary

skill in the art, to modify the system of the combination by

storing the patterns using a CAM, as suggested by Pandya. This

modification can be performed according to the teachings of

Pandya. This modification would benefit the system since a CAM

is a proven, reliable method for storage.

Regarding claim 5, 17, the first portion check is performed

simultaneously for all of the stored header patterns that are

associated with the first header portion by providing the first

portion to the content addressable memory unit. Note, Pandya

teaches simultaneous checking / processing (simultaneous

process, col. 4 lines 30-34).

4.   Claims 8, 9 are rejected under 35 U.S.C. 103(a) as being

unpatentable over the combination of Li and Rovner as applied to

claim 1 above, and further in view of Noehring (US 7,194,766).

The combination is silent on an action identifier is stored

along with the first header portion and the second header

portion, as specified in claim 8 and wherein the action

identifier indicates whether the associated packet should be

processed or dropped, as specified in claim 9.

Noehring teaches an action identifier (status field, col.

12 lines 18-20), as specified in claim 8 and wherein the action

identifier indicates whether the associated packet should be

processed or dropped (status field, packet dropped when status

field indicates error, col. 12 lines 18-20), as specified in claim 9.

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by storing an action identifier along with the first and second header portions, as suggested by Noehring. This modification can be performed according to the teachings of Noehring. This modification would benefit the system by providing an indication of whether the packet should be dropped.

5.   Claims 18-21 and 23-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Rovner and Heatzig (US 4,878,002).

Regarding claims 18 and 23, Li teaches a first portion of an IP address (col. 16 lines 26-34) and a second portion an IP address (col. 16 lines 35-50), the IP address contained in a packet header for an information packet (col. 5 lines 43-47).

Li teaches a first memory unit to store a first pre-determined relationship and associated first stored pattern for the first portion (entry indicates one of three possibilities, col. 16 lines 26-34) and (ii) a second pre-determined

relationship and associated second stored pattern for the second

portion (entry indicates one of three possible situations, col.

16 lines 35-50).

Although Li teaches the first and second portions of the

address are compared to a set of tables (col. 16 lines 20-50),

the reference does not explicitly state the first and second

portions are stored in a memory unit.

Rovner teaches storing the first and second portion of a

header in a memory unit (source and destination address extracted

and stored in data structure, col. 7 lines 39-46).

Therefore it would have been obvious to one of ordinary

skill in the art, to modify the system of Li by storing the

first and second portions of the header in a memory, as

suggested by Rovner. This modification would benefit the system

by providing a method for extracting the first and second

portions of the header in order to compare with the address

tree.

The combination is silent on a backplane; a first line card

connected to the backplane; and a second line card connected to

the backplane, the second line card having a network processor that includes a first memory unit and a second memory unit.

Heatzig teaches a backplane (fig. 2: Backplane B); a first line card connected to the backplane (fig. 2: card S1, col. 3 lines 37-45); and a second line card connected to the backplane (fig. 2: card S2), the second line card having a network processor (fig. 2 card S2 Servo/Loop Controller DSP, col. 3 lines 37-45) that includes a first memory unit (fig. 2 card S2 Dual Port Global Memory, col. 3 lines 37-45) and a second memory unit (fig. 2 card S2 Local Memory, col. 3 lines 37-45).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by storing the first and second header portions of the packet in the first memory unit of Heatzig and storing the predetermined relationships of the first and second header portions in the second memory unit of Heatzig. This modification would benefit the system by providing a cheap, reliable method for storing and transporting the information.

Regarding claim 19, 24, the first and second memory units comprise a single device (Heatzig: fig. 2 box S2).

Regarding claims 20, 25, a plurality of pre-determined

relationships are associated with the first portion (Li: entry

indicates one of three possibilities, col. 16 lines 26-34).

    Regarding claims 21 and 26, the first portion should not

equal any of the stored patterns associated with the first

portion (Li: default class, col. 16 lines 26-34).

6.   Claims 22 and 27 are rejected under 35 U.S.C. 103(a) as

being unpatentable over the combination Li, Rovner, and Heatzig

as applied to claims 21 and 26 above, and further in view of

Pandya (US 6,792,502).

    The combination is silent on the stored patterns associated

with the first header portion are stored in a content

addressable memory unit 'CAM'.

    Pandya teaches storage using a CAM (fig. 1, col. 4 lines

30-34).

    Therefore it would have been obvious to one of ordinary

skill in the art, to modify the system of the combination by

storing the patterns using a CAM, as suggested by Pandya. This

modification can be performed according to the teachings of

Pandya. This modification would benefit the system since a CAM

is a proven, reliable method for storage.

Response to Arguments

7.   Applicant's arguments with respect to amended independent
claims 1, 13, 18, and 23 have been considered but are moot in
view of the new ground(s) of rejection.

Conclusion

8.   Applicant's amendment necessitated the new ground(s) of
rejection presented in this Office action. Accordingly, **THIS
ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is
reminded of the extension of time policy as set forth in 37
CFR 1.136(a).

A shortened statutory period for reply to this final action
is set to expire THREE MONTHS from the mailing date of this
action. In the event a first reply is filed within TWO MONTHS
of the mailing date of this final action and the advisory action
is not mailed until after the end of the THREE-MONTH shortened
statutory period, then the shortened statutory period will
expire on the date the advisory action is mailed, and any
extension fee pursuant to 37 CFR 1.136(a) will be calculated
from the mailing date of the advisory action. In no event,
however, will the statutory period for reply expire later than
SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (571) 272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wing Chan can be reached on (571) 272-7439. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronald Abelson
Examiner

Art Unit 2616

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